

CLAIMS

1. A method for controlling power to a subscriber identity module (SIM) in a wireless communication device (WCD), the method comprising:
 - supplying power to the SIM when a request is pending for service by the SIM;
 - supplying power to the SIM when a software module running on the WCD requests maintenance of power to the SIM; and
 - terminating power to the SIM when no request is pending for service by the SIM and no software module running on the WCD requests maintenance of power to the SIM.
2. The method of claim 1, further comprising re-initiating supply of power to the SIM following termination of power to the SIM when a request from the WCD is pending for service by the SIM.
3. The method of claim 1, further comprising determining whether a request from the WCD is pending for service by the SIM by inspecting a request queue associated with the SIM.
4. The method of claim 1, further comprising re-initiating supply of power to the SIM when a software module running on the WCD requests supply of power to the SIM.
5. The method of claim 4, further comprising determining whether a software module running on the WCD requests supply of power to the SIM by polling any of a plurality of software modules running on the WCD.

6. The method of claim 4, further comprising:
asserting respective bits in a data structure when corresponding software modules running on the WCD request supply of power to the SIM;
determining whether a software module running on the WCD requests supply of power to the SIM by analyzing the data structure; and
when any of the bits in the data structure is asserted, supplying power to the SIM.

7. The method of claim 1, wherein supplying power to the SIM includes maintaining power to the SIM.

8. The method of claim 1, wherein the SIM includes an interface circuit that interfaces with the WCD, and terminating power to the SIM includes terminating power to the interface circuit.

9. The method of claim 1, wherein the SIM includes a power supply line coupled to the WCD, and terminating power to the SIM includes terminating power to the power supply line.

10. The method of claim 1, wherein the SIM includes an interface circuit that interfaces with the WCD, the interface circuit including a clock input to the removable user identity module, and wherein terminating power to the SIM includes terminating power after terminating a clock signal to the clock input.

11. The method of claim 1, further comprising:
storing a user access code associated with the SIM in a memory associated with the WCD;
retrieving the user access code from the memory when power is supplied to the SIM following the termination of power to the SIM; and
using the retrieved user access code in a security authorization process to authorize use of secure features of the SIM.

12. The method of claim 11, wherein storing the user access code includes storing the user access code upon the termination of power to the SIM.

13. The method of claim 11, wherein the SIM is one of a removable user identification module (R-UIM) and a GSM SIM, and the user access code is a card holder verification (CHV) code.

14. The method of claim 11, wherein the SIM is a universal subscriber identification module (USIM), and the user access code is a personal identification number (PIN).

15. The method of claim 1, wherein the SIM is one of a removable user identification module (R-UIM), a GSM SIM, and a universal subscriber identification module (USIM).

16. The method of claim 1, wherein the WCD is one of a cellular radiotelephone, a satellite radiotelephone, a PCMCIA card, and a PDA that communicates according to one of the CDMA standard, the GSM standard, and the WCDMA standard.

17. A system for controlling power to a removable user identity module (SIM) in a wireless communication device (WCD), the system comprising:

a power source coupled to the SIM; and

a processor that controls the power source to:

(a) supply power from the power source to the SIM when a request from the WCD is pending for service by the SIM,

(b) supply power from the power source to the SIM when a software module running on the WCD requests maintenance of power to the SIM, and

(c) terminate power to the SIM when no request from the WCD is pending for service by the SIM and no software module running on the WCD requests supply of power to the SIM.

18. The system of claim 17, wherein the processor controls the power source to re-initiate supply of power to the SIM following termination of power to the SIM when a request from the WCD is pending for service by the SIM.

19. The system of claim 17, wherein the processor determines whether a request from the WCD is pending for service by the SIM by inspecting a request queue associated with the SIM.

20. The system of claim 17, wherein the processor controls the power source to re-initiate supply of power to the SIM when a software module running on the WCD requests supply of power to the SIM.

21. The system of claim 20, wherein the processor determines whether a software module running on the WCD requests supply of power to the SIM by polling any of a plurality of software modules running on the WCD.

22. The system of claim 20, further comprising a memory storing a data structure with bits corresponding to software modules running on the WCD, wherein the processor asserts respective bits in the data structure when corresponding software modules running on the WCD request supply of power to the SIM, determines whether a software module running on the WCD requests supply of power to the SIM by analyzing the data structure, and, when any of the bits in the data structure is asserted, controls the power source to supply power to the SIM.

23. The system of claim 17, wherein the processor controls the power source to maintain power to the SIM.

24. The system of claim 17, wherein the SIM includes an interface circuit that interfaces with the WCD, and the processor controls the power source to terminate power to the SIM by terminating power to the interface circuit.

25. The system of claim 17, wherein the SIM includes a power supply line coupled to the WCD, and the processor controls the power source to terminate power to the SIM by terminating power to the power supply line.

26. The system of claim 17, wherein the SIM includes an interface circuit that interfaces with the WCD, the interface circuit including a clock input to the removable user identity module, and wherein the processor controls the power source to terminate power to the SIM by terminating power after terminating a clock signal to the clock input.

27. The system of claim 17, further comprising a memory associated with the WCD that stores a user access code associated with the SIM, wherein the processor retrieves the user access code from the memory when power is supplied to the SIM following the termination of power to the SIM, and uses the retrieved user access code in a security authorization process to authorize use of the secure features SIM.

28. The system of claim 27, wherein the processor stores the user access code upon the termination of power to the SIM.

29. The system of claim 27, wherein the SIM is one of a removable user identification module (R-UIM) and a GSM SIM, and the user access code is a card holder verification (CHV) code.

30. The system of claim 27, wherein the SIM is a universal subscriber identification module (USIM), and the user access code is a personal identification number (PIN).

31. The system of claim 17, wherein the SIM is one of a removable user identification module (R-UIM), a GSM SIM, and a universal subscriber identification module (USIM).

32. The system of claim 17, wherein the WCD is one of a cellular radiotelephone, a satellite radiotelephone, a PCMCIA card, and a PDA that communicates according to one of the CDMA standard, the GSM standard, and the WCDMA standard.

33. A computer-readable medium containing instructions that cause a programmable processor to:

supply power to a removable user identity module (SIM) when a request from a wireless communication device (WCD) is pending for service by the SIM;

supply power to the SIM when a software module running on the WCD requests maintenance of power to the SIM; and

terminate power to the SIM when no request from the WCD is pending for service by the SIM and no software module running on the WCD requests supply of power to the SIM.

34. The computer-readable medium of claim 33, wherein the instructions cause the processor to re-initiate supply of power to the SIM following termination of power to the SIM when a request from the WCD is pending for service by the SIM.

35. The computer-readable medium of claim 33, wherein the instructions cause the processor to determine whether a request from the WCD is pending for service by the SIM by inspecting a request queue associated with the SIM.

36. The computer-readable medium of claim 33, wherein the instructions cause the processor to re-initiate supply of power to the SIM when a software module running on the WCD requests supply of power to the SIM.

37. The computer-readable medium of claim 36, wherein the instructions cause the processor to determine whether a software module running on the WCD requests supply of power to the SIM by polling any of a plurality of software modules running on the WCD.

38. The computer-readable medium of claim 36, wherein the instructions cause the processor to:

define a data structure with bits corresponding to software modules running

on the WCD;

assert respective bits in the data structure when corresponding software modules running on the WCD request supply of power to the SIM;

determine whether a software module running on the WCD requests supply of power to the SIM by analyzing the data structure; and

when any of the bits in the data structure is asserted, supply power to the SIM.

39. The computer-readable medium of claim 37, wherein the instructions cause the processor to supply power to the SIM by maintaining power to the SIM.

40. The computer-readable medium of claim 33, wherein the SIM includes an interface circuit that interfaces with the WCD, and the instructions cause the processor to terminate power to the SIM by terminating power to the interface circuit.

41. The computer-readable medium of claim 33, wherein the SIM includes a power supply line coupled to the WCD, and the instructions cause the processor to terminate power to the SIM by terminating power to the power supply line.

42. The computer-readable medium of claim 33, wherein the SIM includes an interface circuit that interfaces with the WCD, the interface circuit including a clock input to the removable user identity module, and the instructions cause the processor to terminate power to the SIM by terminating power after terminating a clock signal to the clock input.

43. The computer-readable medium of claim 33, wherein the instructions cause the processor to:

store a user access code associated with the SIM in a memory associated with the WCD;

retrieve the user access code from the memory when power is supplied to the SIM following the termination of power to the SIM; and

use the retrieved user access code in a security authorization process to authorize use of the WCD.

44. The computer-readable medium of claim 43, wherein the instructions cause the processor to store the user access code upon the termination of power to the SIM.

45. The computer-readable medium of claim 43, wherein the SIM is one of a removable user identification module (R-UIM) and a GSM SIM, and the user access code is a card holder verification (CHV) code.

46. The computer-readable medium of claim 43, wherein the SIM is a universal subscriber identification module (USIM), and the user access code is a personal identification number (PIN).

47. The computer-readable medium of claim 33, wherein the SIM is one of a removable user identification module (R-UIM), a GSM SIM, and a universal subscriber identification module (USIM).

48. The computer-readable medium of claim 33, wherein the WCD is one of a cellular radiotelephone, a satellite radiotelephone, a PCMCIA card, and a PDA that communicates according to one of the CDMA standard, the GSM standard, and the WCDMA standard.

49. A method comprising:

storing a user access code associated with a subscriber identity module (SIM) in a memory associated with a wireless communication device (WCD);

retrieving the user access code from the memory when power is resupplied to the SIM; and

using the retrieved user access code in a security authorization process to authorize use of secure features of the SIM.

50. The method of claim 49, further comprising:

terminating power to the SIM when no request from the WCD is pending for service by the SIM and no software module running on the WCD requests supply of power to the SIM; and

terminating power to the SIM when power to the WCD is terminated.

51. The method of claim 50, further comprising:

retrieving and using the user access code when power is resupplied to the SIM following termination when no request from the WCD is pending for service by the SIM and no software module running on the WCD requests supply of power to the SIM; and

accepting and using user input as the user access code when power is resupplied to the SIM following termination when power to the WCD is terminated.

52. The method of claim 49, wherein storing the user access code includes storing the user access code when power to the SIM is terminated.

53. The method of claim 49, wherein the SIM is one of a removable user identification module (R-UIM) and a GSM SIM, and the user access code is a card holder verification (CHV) code.

54. The method of claim 49, wherein the SIM is a universal subscriber identification module (USIM), and the user access code is a personal identification number (PIN).

55. The method of claim 49, wherein the SIM is one of a removable user identification module (R-UIM), a GSM SIM, and a universal subscriber identification module (USIM).

56. The method of claim 49, wherein the WCD is one of a cellular radiotelephone, a satellite radiotelephone, a PCMCIA card, and a PDA that communicates according to one of the CDMA standard, the GSM standard, and the WCDMA standard.

57. A system comprising:
a memory that stores a user access code associated with a removable user identity module (SIM) in a memory associated with a wireless communication device (WCD); and
a processor that retrieves the user access code from the memory when power is resupplied to the SIM, and uses the retrieved user access code in a security authorization process to authorize use of the WCD.

58. The system of claim 57, wherein the processor terminates power to the SIM when no request from the WCD is pending for service by the SIM and no software module running on the WCD requests supply of power to the SIM, and terminates power to the SIM when power to the WCD is terminated.

59. The system of claim 57, wherein the processor retrieves and uses the user access code when power is resupplied to the SIM following termination when no request from the WCD is pending for service by the SIM and no software module running on the WCD requests supply of power to the SIM, and accepts and uses user input as the user access code when power is resupplied to the SIM following termination when power to the WCD is terminated.

60. The system of claim 57, wherein the processor stores the user access code in the memory when power to the SIM is terminated.

61. The system of claim 57, wherein the SIM is one of a removable user identification module (R-UIIM) and a GSM SIM, and the user access code is a card holder verification (CHV) code.

62. The system of claim 57, wherein the SIM is a universal subscriber identification module (USIM), and the user access code is a personal identification number (PIN).

63. The system of claim 57, wherein the SIM is one of a removable user identification module (R-UIIM), a GSM SIM, and a universal subscriber identification module (USIM).

64. The system of claim 57, wherein the WCD is one of a cellular radiotelephone, a satellite radiotelephone, a PCMCIA card, and a PDA that communicates according to one of the CDMA standard, the GSM standard, and the WCDMA standard.

65. A computer-readable medium containing instructions that cause a processor to:

store a user access code associated with a SIM in a memory associated with a WCD;

retrieve the user access code from the memory when power is resupplied to the SIM; and

use the retrieved user access code in a security authorization process to authorize use of the WCD.

66. The computer-readable medium of claim 65, wherein the instructions cause the processor to:

terminate power to the SIM when no request from the WCD is pending for service by the SIM and no software module running on the WCD requests supply of power to the SIM; and

terminate power to the SIM when power to the WCD is terminated.

67. The computer-readable medium of claim 65, wherein the instructions cause the processor to:

retrieve and use the user access code when power is resupplied to the SIM following termination when no request from the WCD is pending for service by the SIM and no software module running on the WCD requests supply of power to the SIM; and

accept and use user input as the user access code when power is resupplied to the SIM following termination when power to the WCD is terminated.

68. The computer-readable medium of claim 65, wherein the instructions cause the processor to store the user access code when power to the SIM is terminated.

69. The computer-readable medium of claim 65, wherein the SIM is one of a removable user identification module (R-UIM) and a GSM SIM, and the user access code is a card holder verification (CHV) code.

70. The computer-readable medium of claim 65, wherein the SIM is a universal subscriber identification module (USIM), and the user access code is a personal identification number (PIN).

71. The computer-readable medium of claim 65, wherein the SIM is one of a removable user identification module (R-UIM), a GSM SIM, and a universal subscriber identification module (USIM).

72. The computer-readable medium of claim 65, wherein the WCD is one of a cellular radiotelephone, a satellite radiotelephone, a PCMCIA card, and a PDA that communicates according to one of the CDMA standard, the GSM standard, and the WCDMA standard.